Clean Air Act Compliance Inspection Report

United States Environmental Protection Agency
Region 10 – Seattle, WA

Partial Compliance Evaluation

Kapstone Kraft Paper Corporation

Longview, Washington

Inspection Date: October 31, 2017

Zachary T. Hedgpeth 3-14-18

Report Author Signature Date

Zach Hedgpeth, PE
Environmental Engineer
EPA Region 10

Roylene Cunningham 3/15/2018

Peer Review Signature Date

Roylene Cunningham
Environmental Engineer
EPA Region 10

Table of Contents

Attachments

1. Basic Facility and Inspection Information

Facility:	Kapstone Kraft Paper Corporation Longview, WA
Physical Address:	300 Fibre Way Longview, WA 98632
AFS Number:	WA0000005301500002
NAICS:	322110 – Pulp Mills
Facility Contact:	Roberto Artiga, Environmental Services Manager Office: 360-575-5570, Cell: 360-270-3776 roberto.artiga@kapstonepaper.com
Agency Inspectors:	Zach Hedgpeth, PE – EPA Region 10 206-553-1217, hedgpeth.zach@epa.gov Shingo Yamazaki, PE – WA Dept. of Ecology 360-407-7563, syam461@ecy.wa.gov
Dates of Inspection:	October 31, 2017
Date of Report:	March 14, 2018
Inspection Notice:	Announced

Disclaimer

This report is a summary of observations and information gathered from the facility at the time of the inspection. The information provided does not constitute a final decision on compliance with CAA regulations or applicable permits, nor is it meant to be a comprehensive summary of all activities and processes conducted at the facility.

2. Inspection Elements/Order

- Opening Conference (10/31/17, 9:00 am)
    - Attendees
        - Roberto Artiga – Environmental Services Manager, Kapstone
        - Wayne Wooster – Environmental Engineer, Kapstone
        - Chris Hinson – Field Lead, Montrose
        - John Lewis – Field Technician, Montrose
        - Shingo Yamazaki – Inspector, WA Dept of Ecology
        - Zach Hedgpeth – Inspector, EPA Region 10
    - Introductions, including presentation of EPA inspector credentials.
    - Safety briefing.
    - Photos – facility stated that photos are ok. Roberto requested that I notify him so he or Wayne can take "side by side" photos.
    - Discussion of planned approach for engineering testing. Chris plans to start on the horizontal duct leading to the inlet of the cyclone. The first goal will be to measure the flow rate and attempt a velocity traverse using a Type S pitot tube.

- Field Observations (10/31/17, 10:00 am – 6:00 pm)
    - Following opening conference discussion, the group proceeded to the M&D digester area, arriving around 10 am.
    - M&D production rate data was observed at a nearby computer terminal. The following data was recorded:
        - [redacted]
        - [redacted]
    - Horizontal Cyclone Inlet Duct
        - Two testing ports had been installed in the horizontal duct leading from the rotary valve to the cyclone. The ports are shown in digital image P1000118. Each port was equipped with a manual ball valve. When the ports were opened by Montrose personnel, I observed condensing vapor emissions being emitted from each open port, as shown in several digital images, notably P1000116 (video clip). I also observed a light brown liquid dripping from each of the testing ports when in open position.
        - Around 11:20 am, Montrose personnel attempted velocity measurements using a Type S pitot tube. Pulsing within the duct caused gasses to blow out the open port around the exhaust gas sampling line. Differential pressure measurements across the pitot tube conducted using a magnehelic gauge were observed to be erratic due to the pulsation within the duct.
        - After some discussion, Montrose personnel installed empty impingers in-line with the pitot tube lines to act as buffering chambers (see digital image P1000122 and P1000123). Following this modification, differential pressure readings using the magnehelic gauge were more stable. The idea of using a digital manometer for future measurements was also discussed.
        - During testing on the horizontal duct, sawdust was observed within the Teflon line (see digital images P1000125 and P1000126). The sawdust was observed to move steadily through the line until it fell out into the first

impinger in the testing train. This was observed to occur multiple times during testing.

- After about 14 minutes of testing on the horizontal duct, the vacuum pressure on the dry gas meter was observed to be almost 24 inches of mercury (in. Hg). Testing was paused, and the Teflon line was removed from the duct. It was observed that the "sock" from the wet/dry bulb temperature probe had been sucked into the Teflon line. Montrose personnel cut off the "sock" and replaced the line in the port, after which vacuum pressure returned to normal.
- During testing on the horizontal duct upstream of the cyclone, the Teflon line leaving the impinger box was cool to the touch, and no condensation was observed within this line (leading to the dry gas meter). This indicates that all moisture within the sample gas was being successfully removed in the cooled impingers.
- Thirty-five minutes into the run, 10 liters of dry sample gas had been collected, according to the dry gas meter. At this point, I observed some liquid bubbling over from the 2nd impinger into the 3rd.
- A few minutes later (39 minute mark), the dry gas meter vacuum pressure exceeded 20 in. Hg, so testing was paused. When the testing line was removed from the duct, the line was not observed to be plugged, but the port itself was clogged with sawdust. After the line was re-inserted into the duct, the vacuum pressure went back down. At this time, I recorded the temperature of the sample gas at 209.6 F according to the wet/dry bulb meter.
- Near the end of the run, I noted condensation in the 4th impinger (see digital images P1000129 and P1000130). I noted the run start and end volumes as 1607.32 and 1631.08 liters, respectively, according to the dry gas meter. Total dry sample gas collected during this run was 23.76 liters.
- Digital image P1000132 shows the four impingers following the testing run on the horizontal duct upstream of the cyclone. Note that the last impinger containing silica gel was flooded with water from the upstream impingers when Montrose personnel mistakenly released the vacuum improperly during the post-run leak check.

- Cyclone Outlet Stack
  - Montrose personnel next set up to test the single port on the cyclone outlet stack (see digital image P1000131). During setup, I recorded the following production data:
    - (b) (4) [redacted]
    - [redacted]
  - Testing on the cyclone stack began around 2:45 pm. In attempting a velocity traverse, it was observed that measurement of the differential pressure across the pitot tube was more difficult because the numbers were closer to zero (ranging from around +0.08 to -0.02 inches water column). During this time, I recorded the exhaust gas temperature as 175 F.
  - Shortly after the start of testing on the cyclone stack, I accompanied Mr. Hinson down to the testing trailer to recover the train from the first run (on

the horizontal cyclone inlet duct). I noted that the liquid in the first two impingers was a light brown color, and that sawdust and woody debris had collected at the bottom of the first impinger (see digital image P1000133).
        - Around 3:10 pm I returned to the cyclone outlet stack and observed the end of the testing run. Mr. Lewis stated that there had been no problems with pluggage or increased vacuum pressure at the dry gas meter, and that a higher testing rate of 0.5 cubic feet per minute had been achieved. The wet bulb / dry bulb stack gas temperature measurements resulted in temperatures of 175 / 177 F.
        - Significantly less liquid was collected in the impingers during testing on the cyclone outlet stack, as shown in digital image P1000134.
    - Screw Conveyor Vent
        - Around 3:30 pm, the testers moved to the upper level in order to conduct testing on the screw conveyor vent stack (see digital images P1000135 – P1000137).
        - Due to very low expected stack velocity, a Shortridge manometer was used to measure differential pressure (velocity pressure). Results using the Shortridge were roughly between 0.012 and 0.018 in. W.C. Stack exhaust temperature was recorded at around 100 F.
        - When testing began on the screw conveyor vent, the testers had difficulty meeting their initial leak check, which caused a temporary delay.
    - Following the completion of testing, I took photos of the Montrose data sheets, as shown in digital images P1000138 – P1000143.

- Closing Conference (10/31/17, 6:00 pm)
    - The closing conference was an informal discussion in the field following completion of the engineering testing. All parties agreed to hold a follow-up call on November 13, 2017 in order to discuss technical aspects of the compliance testing, taking into account lessons learned and results from the engineering testing. Kapstone and Montrose staff raised the question as to whether the compliance testing should be conducted on the cyclone inlet, or should be shifted to the cyclone outlet. This question was tabled pending further discussion and evaluation of the engineering testing results.

3. Process/Facility Notes

1. Facility Process Information

a. For process description information relevant to this engineering testing effort, please see Sections 3.0 and 4.2 of Attachment 4 – EPA Region 10 2016 PCE Inspection Report.